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REPORT NO. 13

U.S. DEPARTMENT OF AGRICULTURE
U.S. NATIONAL COTTON COUNCIL

Cotton Fiber and Processing Test Results

CROP of

1974



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 January 31, 1975

This is the last report for the 1974 crop. These reports were published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.^{1/} These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

1/ Summary of Cotton Fiber and Processing Test Results, Crop of 1973, USDA, AMS, Cotton Division, May 1974.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1974

Discussion of Test Results

Cotton Division laboratories of the Agricultural Marketing Service, USDA, report that cotton fibers from the Southwest short staple samples tested to date are less uniform and finer than through the comparable period a year ago. Shirley Analyzer nonlint content and picker and card waste are higher than a year ago. Yarns spun from these samples show considerably lower yarn appearance grades. Yarn imperfections are much higher than last season.

Averages for all medium staple samples tested through January 24 show fibers to be finer and stronger at 1/8" gage strength test. Picker and card waste is higher than a year ago. Yarns spun from these samples show about the same qualities as last season.

Medium staple samples tested from the Southeast show finer fibers than a year ago. Picker and card waste is higher this year. Yarns spun from these samples show slightly fewer imperfections.

No additional medium staple samples were received from the South Central area during this report period.

Southwest medium staple samples tested to date show finer and stronger fibers at both zero and 1/8" gage tests. Picker and card waste is higher than last year. Yarns spun from these samples show lower appearance grades.

Medium staple samples tested from the West show coarser fibers than a year ago. Picker and card waste is higher than last season. Other test results were about the same.

Averages for all long staple samples tested to date are longer and finer than through this date last year. Comber waste is less. Yarn appearance grades are lower for both carded and combed yarns. Yarn imperfections are higher for carded yarns than a year ago.

No additional long staple lots were received from either the Southeast or South Central areas during this report period.

Long staple samples tested from the West show stronger fibers this season as compared with last season. Comber waste is less. Yarns spun from these samples show weaker yarn strength for carded yarns.

Extra long staple, American Pima, samples from the West show fiber shorter, finer and weaker at 1/8" gage tests than a year ago. Shirley Analyzer nonlint content is less than last season. Yarns spun from these samples show combed yarn strength to be weaker than a year ago. Yarn appearance grades were lower than last season.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through January 24, 1975

1/

| Staple group Area, and Crop year | Lots tested | Fiber test results | | | | | | Processing test results | | | | | |
|--|----------------|--------------------|--------------|-----------------------|--------------|-----------------------------|------------------|-------------------------|---------------|----------------|--------------------|--------------|----------|
| | | Fibrograph | | Mike fine- ness | | Fiber strength 1/8" gage | | S A nonlint waste | | P & C waste | | Yarn quality | |
| | | No. | 2.5% span | 50/2.5 unif. | Zero gage | 1/8" gage | nonlint waste | str. | skein str. | Index | Imperf- ections | No. | Yarn No. |
| Short Staple: | | | | | | | | | | | | | |
| Southwest | 65 | .96 | 46 | 4.5 | 83 | 21 | 3.3 | 6.3 | 91 | 109 | 16 | 42 | |
| | 55 | .96 | 44 | 3.8 | 83 | 21 | 4.0 | 7.3 | 90 | 90 | 26 | 40 | |
| Medium Staple: | | | | | | | | | | | | | |
| Southeast | 57 | 1.08 | 46 | 4.5 | 82 | 22 | 3.6 | 6.0 | 101 | 105 | 21 | 61 | |
| | 51 | 1.09 | 45 | 4.3 | 81 | 22 | 3.4 | 6.5 | 102 | 103 | 19 | 61 | |
| South Central | 167 | 1.10 | 45 | 4.5 | 81 | 22 | 3.1 | 5.8 | 101 | 107 | 19 | 61 | |
| | 128 | 1.10 | 44 | 4.0 | 83 | 22 | 3.2 | 6.3 | 105 | 102 | 18 | 63 | |
| Southwest | 50 | 1.07 | 45 | 4.3 | 82 | 22 | 3.0 | 5.7 | 98 | 97 | 23 | 57 | |
| | 48 | 1.07 | 44 | 4.0 | 84 | 23 | 3.3 | 6.5 | 100 | 87 | 24 | 57 | |
| West | 68 | 1.10 | 45 | 4.3 | 91 | 25 | 2.4 | 5.2 | 116 | 101 | 17 | 66 | |
| | 72 | 1.11 | 46 | 4.5 | 91 | 25 | 2.5 | 6.0 | 115 | 103 | 16 | 66 | |
| U. S. Average | | | | | | | | | | | | | |
| 1973 | 342 | 1.09 | 45 | 4.4 | 84 | 22 | 3.1 | 5.7 | 104 | 104 | 20 | 62 | |
| | 299 | 1.10 | 44 | 4.2 | 85 | 23 | 3.1 | 6.3 | 106 | 100 | 19 | 63 | |
| Significant dif- ference 2/ | | 0.02 | 2 | 0.2 | 2 | 1 | 0.5 | 0.5 | 4 (22s) | 5 | 2 | 3 | |

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through January 24, 1974

1/ (Continued)

| Staple group, Area, and Crop year | Lots | Fiber Test Results | | | | | | Processing Test Results | | | | | |
|---|------|--|--------|--------------|--------------|--------------------|--------------|-------------------------|--------------|--------|---------------------|---------------------|-----|
| | | Span | Length | Strength | | SA Non- lint | F&C Waste | Comber Waste | Yarn Quality | | Imprfctns carded | Imprfctns combed | SPY |
| | | | | Mike gage | Zero gage | | | | carded | carded | | | |
| No. | No. | In. | Pct. | Rdg. | Mpsi | G/tx | Pct. | Pct. | Pct. | Pct. | 22s Lbs. | 22s Lbs. | No. |
| <u>Long Staple:</u> | | | | | | | | | | | | | |
| <u>Southeast</u> | | 18 | 1.12 | 45 | 4.6 | 81 | 23 | 3.9 | 8.7 | 17.0 | 103 | 119 | 124 |
| 1973 | 1974 | 15 | 1.15 | 43 | 4.0 | 82 | 23 | 4.0 | 8.7 | 17.2 | 104 | 118 | 110 |
| <u>South Central</u> | | 7 | 1.14 | 44 | 4.3 | 85 | 24 | 4.3 | 8.8 | 17.3 | 108 | 126 | 124 |
| 1973 | 1974 | 6 | 1.15 | 44 | 4.0 | 85 | 23 | 4.0 | 8.8 | 18.0 | 105 | 125 | 102 |
| <u>West</u> | | 15 | 1.15 | 45 | 3.6 | 91 | 27 | 2.7 | 7.6 | 15.7 | 132 | 150 | 126 |
| 1973 | 1974 | 14 | 1.16 | 45 | 3.7 | 93 | 27 | 2.7 | 7.4 | 15.1 | 128 | 148 | 113 |
| <u>U. S. Average</u> | | 40 | 1.13 | 45 | 4.2 | 86 | 24 | 3.5 | 8.3 | 16.6 | 115 | 132 | 120 |
| 1973 | 1974 | 35 | 1.15 | 44 | 3.9 | 87 | 24 | 3.5 | 8.2 | 16.1 | 114 | 129 | 108 |
| <u>Array</u> | | | | | | | | | | | | | |
| <u>Extra Long Staple:</u> | | <u>American Pima</u> | | | | | | | | | | | |
| <u>West</u> | | 20 | 1.46 | 31 | 3.7 | 101 | 34 | 3.4 | 8.1 | 18.4 | 67 | 118 | 110 |
| 1973 | 1974 | 19 | 1.44 | 32 | 3.5 | 100 | 32 | 2.9 | 8.0 | 18.0 | 64 | 110 | 110 |
| <u>50's Combed Yarn</u> | | | | | | | | | | | | | |
| <u>Significant Difference 1/</u> | | 0.02 | 2 | 0.2 | 2 | 1 | 0.5 | 0.5 | 0.5 | 4(22s) | 4(22s) | 2(50s) | 5 |
| <u>Significant Difference 2/</u> | | 0.02 | 2 | 0.2 | 2 | 1 | 0.5 | 0.5 | 0.5 | 4(22s) | 4(22s) | 2(50s) | 5 |
| <u>1/</u> | | Based on a limited number of samples of modal quality | | | | | | | | | | | |
| <u>2/</u> | | Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples. | | | | | | | | | | | |

1/ Based on a limited number of samples of modal quality
 2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1974

| Production Area, Classification | | | Fiber Test Results | | | | | | | | Processing Test Results - Carded Yarns | | | | | | | | | | | | | |
|---------------------------------|-------------|---------------|--------------------|----------------|------|-----------|----------------|-----------|-----------------|-----------|--|-------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|-----|-------------|----|-----------------|----|
| | | | Digital Fibrograph | | Mike | | Fiber Strength | | Elongation 1/8" | | S.A. Non-lint | | Color Stock P & C | | Strength | | Elongation | | Appearance Index | | Imperfect's | | Spin. Potential | |
| No | Grade | Sample Number | 2.5% Unif span | 2.5% Unif span | Mike | Zero Gage | 1/8" Gage | 1/8" Gage | Non-lint | Raw Stock | Yel | Waste | 8s or 22s or 27tx | No | No | No | No | No | No |
| AREA | NAME & CODE | 32s | 32s | 32s | 32s | 32s | 32s | 32s | 32s | 32s | 32s | 32s | 8s or 22s or 27tx | No | No | No | No | No | No |
| SOUTHWEST | | | | | | | | | | | | | | | | | | | | | | | | |
| CENTRAL TEXAS | | | | | | | | | | | | | | | | | | | | | | | | |
| BYERS | | | 2 SLM LT SP | 42 | 30 | 0.97 | 45 | 4.3 | 82 | 21 | 6.7 | 3.7 | 4 | 3 | 7.1 | 292 | 88 | 7.1 | 6.4 | 120 | 100 | 31 | 19 | 40 |
| ANSON | | | 3 SLM LT SP | 42 | 30 | 0.97 | 46 | 4.7 | 86 | 22 | 5.9 | 3.4 | 4 | 3 | 7.9 | 293 | 87 | 6.8 | 6.0 | 120 | 100 | 28 | 18 | 36 |
| NORTHWEST TEXAS | | | | | | | | | | | | | | | | | | | | | | | | |
| ANSON | | | 3 SLM LT SP | 42 | 31 | 0.96 | 43 | 4.1 | 83 | 21 | 6.7 | 3.9 | 4 | 3 | 6.9 | 307 | 93 | 7.5 | 6.8 | 110 | 90 | 51 | 25 | 43 |
| BURKBURNETT | | | 3 SLM LT SP | 42 | 31 | 0.97 | 44 | 4.6 | 82 | 20 | 5.9 | 3.7 | 3 | 4 | 7.4 | 294 | 85 | 7.6 | 6.3 | 120 | 80 | 41 | 22 | 37 |
| KNOTT | | | 3 MID LT SP | 32 | 31 | 0.95 | 45 | 3.9 | 83 | 20 | 6.2 | 3.2 | 2 | 4 | 6.6 | 310 | 97 | 7.5 | 6.6 | 130 | 110 | 30 | 17 | 40 |
| PADUCAH | | | 2 MID LT SP | 32 | 31 | 0.96 | 43 | 3.6 | 78 | 21 | 7.1 | 3.3 | 2 | 4 | 5.9 | 300 | 92 | 7.6 | 6.7 | 110 | 90 | 49 | 29 | 39 |
| RULE | | | 2 SLM LT SP | 42 | 32 | 1.01 | 42 | 3.4 | 81 | 21 | 7.1 | 3.9 | 2 | 3 | 6.6 | 309 | 96 | 7.5 | 7.2 | 120 | 80 | 59 | 31 | 47 |
| SNYDER | | | 2 SLM LT SP | 42 | 32 | 1.02 | 42 | 3.5 | 89 | 23 | 6.1 | 3.6 | 2 | 4 | 6.3 | 333 | 105 | 7.1 | 6.5 | 120 | 90 | 43 | 27 | 48 |
| 3 SLM LT SP | | | 3 SLM LT SP | 42 | 32 | 0.99 | 43 | 3.7 | 84 | 23 | 5.8 | 4.0 | 4 | 4 | 6.5 | 322 | 100 | 7.2 | 6.5 | 110 | 80 | 22 | 15 | 45 |
| OKLAHOMA | | | | | | | | | | | | | | | | | | | | | | | | |
| CARNEGIE | | | 3 SLM LT SP | 42 | 33 | 1.03 | 45 | 3.8 | 77 | 21 | 7.1 | 3.9 | 2 | 4 | 7.4 | 314 | 91 | 8.0 | 7.3 | 110 | 70 | 64 | 42 | 47 |
| DAVIDSON | | | 3 SLM LT SP | 42 | 32 | 1.03 | 44 | 4.0 | 84 | 22 | 6.1 | 3.8 | 3 | 4 | 7.2 | 317 | 98 | 8.0 | 7.0 | 110 | 80 | 47 | 32 | 46 |
| TERRAL | | | 2 LM LT SP | 52 | 30 | 0.91 | 43 | 4.5 | 82 | 20 | 5.6 | 2.7 | 5 | 3 | 7.6 | 249 | 70 | 5.9 | 5.2 | 120 | 90 | 68 | 38 | 26 |
| 3 LM LT SP | | | 3 LM LT SP | 52 | 30 | 0.95 | 44 | 4.9 | 81 | 20 | 5.8 | 3.6 | 6 | 4 | 7.8 | 244 | 66 | 5.5 | 5.0 | 120 | 100 | 32 | 15 | 25 |

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1974

| Production Area, Classification | | Fiber Test Results | | | | | | | | | | Processing Test Results - Carded Yarns | | | | | | | | | | |
|---------------------------------|---------------|--------------------|-------------|----------------|-------|-------------------------|-----------|-----------|-----|--------------------|----------|--|-----|--------------|--------------|--------------|--------------|---------------------|--------------|--------------|----|----|
| No | Sample Number | Digital Fibrograph | | Fiber Strength | | Elong- gat'n 1/8" | | S.A. | | Color Raw Stock | | P & C Waste | | Strength | | Elongation | | Appearance Index | | Imperf't'n's | | |
| | | Grade | Name & Code | Stple span | Unif. | Mike | Zero Gage | 1/8" Gage | Pct | Pct | Non-Lint | Yel | Gra | 22s or 27 tx | 50s or 27 tx | 22s or 27 tx | 50s or 27 tx | 22s or 27 tx | 50s or 27 tx | No | No | |
| | | 32s | In | Pct | Rdg | 3.8 | 1.11 | 4.3 | 3.8 | 78 | 21 | 6.1 | 4.3 | 2 | 3 | 7.4 | 101 | 35 | 6.7 | 4.8 | 90 | 70 |
| SOUTHEAST AREA | | | | | | | | | | | | | | | | | | | | | | |
| GEORGIA | | | | | | | | | | | | | | | | | | | | | | |
| 1 | COMER | 3 LM | 51 | 35 | 1.11 | 43 | 3.8 | 7.8 | 21 | 201 | 6.1 | 4.3 | 2 | 3 | 7.4 | 101 | 35 | 6.7 | 4.8 | 90 | 70 | 34 |
| SOUTHWEST AREA | | | | | | | | | | | | | | | | | | | | | | |
| NORTHWEST TEXAS | | | | | | | | | | | | | | | | | | | | | | |
| 1 | VERNON | 2 SLM LT SP | 42 | 32 | 1.03 | 45 | 4.7 | 85 | 22 | LOCKETT | 4789A | 3.4 | 2 | 3 | 7.7 | 85 | 24 | 5.6 | 4.7 | 80 | 80 | 37 |
| 2 | VERNON | 3 SLM LT SP | 42 | 32 | 1.01 | 45 | 4.4 | 81 | 23 | LOCKETT | 4789A | 4.6 | 3 | 3 | 7.4 | 89 | 27 | 5.7 | 4.3 | 80 | 70 | 38 |
| WEST AREA | | | | | | | | | | | | | | | | | | | | | | |
| ARIZONA | | | | | | | | | | | | | | | | | | | | | | |
| 1 | BOWIE | 4 SLM | 41 | 35 | 1.10 | 43 | 3.9 | 80 | 22 | STONEVILLE | 213 | 4.6 | 1 | 2 | 6.5 | 99 | 34 | 7.0 | 5.2 | 80 | 70 | 29 |
| CALIFORNIA | | | | | | | | | | | | | | | | | | | | | | |
| 1 | WESTMORLAND | 4 SLM | 41 | 34 | 1.09 | 42 | 3.8 | 88 | 24 | DELTAPINE | 61 | 3.1 | 1 | 2 | 6.2 | 106 | 34 | 6.1 | 4.4 | 90 | 70 | 24 |

Table 4. --Cotton, American upland Long staple: Quality characteristics by production areas, crop of 1974

1/ 100 percent selected for tests, less than 100 percent in the area
* Comber Waste and Combed Yarn Data

Table 5--Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1974

| Production Area, Classification & Sample Number | | Fiber Test Results | | | | | | | | Processing Test Results - Combed Yarns | | | | | | | | | |
|--|-------|--------------------|-----------------------------------|------------|--------------|----------------------|----------------------------------|--------------------------|----------|--|---------------------|------------|------|----|-----|-----|-----|-----|-----|
| | | Array Length | Fiber Strength Zero Gage | Mike CV | 1/8" Gage | S.A. Non- Lint | Color Raw Stock Gra Yel | P & C Comber Waste | Strength | Elongation | Appearance Index | Imprfect's | | | | | | | |
| No | Grade | Stple | UQL | Rdg | Mpsi | Gtex | Pct | Pct | No | Pct | Pct | Pct | No | No | No | No | No | | |
| WEST AREA | | | | | | | | | | | | | | | | | | | |
| ARIZONA | | | | | | | | | | | | | | | | | | | |
| CASA GRANDE | 4 | 44 | 1.50 | 32 | 3.7 | 101 | 33 | 6.8 | 2.9 | 4 | 7.8 | 18.9 | 66 | 36 | 5.7 | 4.8 | 110 | 120 | |
| QUEEN CREEK | 4 | 46 | 1.48 | 30 | 3.8 | 103 | 34 | 6.8 | 3.6 | 4 | 7.2 | 17.6 | 67 | 37 | 5.7 | 4.8 | 120 | 120 | |
| WEST TEXAS | | | | | | | | | | | | | | | | | | | |
| FABENS | 4 | 44 | 1.36 | 35 | 3.1 | 99 | 30 | 7.1 | 4.4 | 4 | 5 | 8.6 | 19.2 | 64 | 35 | 5.8 | 4.9 | 110 | 120 |
| PECOS | 4 | 44 | 1.41 | 35 | 3.0 | 96 | 30 | 7.3 | 3.0 | 5 | 6 | 10.1 | 20.8 | 64 | 34 | 5.8 | 5.0 | 100 | 90 |

* 100 percent selected for tests, less than 100 percent in the area

